

Your Ref.: TW4372
Our Case No.: 738242
Appln. No.: 89119007
Present Stage: Re-examination
Type of the Notice: Final OA Prior to Rejection
Cited Reference: Y

[TRANSLATION]

Syllabus:

In the matter of patent application No. 89119007, this Office considers that certain indefiniteness, as set forth in the following Explanation point 3, should be clarified. If the applicant has any concrete rebutment or responsive explanation, please submit them in duplicate to this Office within 60 days after the day on which this letter is received. If the rebuttal or responsive explanation is not provided within the time limit, a decision will be rendered based on the information presently available.

Explanation:

1. If there is amendment to this application, the amendment should be made based upon Articles 44, 44-1, and 102-1 of the Patent Law, Article 28 of Enforcement Rules of Patent Law, and Regulation No. IP-LET-0918600118-0 promulgated on November 8, 2002. An official fee of NT\$1000 for amendment shall be paid (if the specification and drawings are to be amended or supplemented, a request form has to be filed in duplicate, along with the supplementary amended pages of the specification or drawings in duplicate (with the supplement or amended portions underlined) and clean-copy of the supplemented/amended pages of the specification or drawings in triplicate; and if this supplement or amendment results in discontinuity in the number of pages of the original specification or drawings, a complete set of the specification or drawings after supplement/amendment has to be submitted to this Office in triplicate).
2. If the applicant wishes to come to this Office to make a personal demonstration or explanation, please denote "Apply for interview" in the responsive explanation, and this Office will arrange the time and place to conduct an interview if necessary. An official fee of NT\$2000 is required for the interview.

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3. This application is examined and considered that:

- a. The present application is an active matrix type organic EL (Electroluminescent) display device, comprising: an insulated gate field effect transistor (TFT) provided on a single crystal semiconductor substrate; a bed plate and a cover plate formed of an insulating material; a packing material for bonding the bed and cover plates or a bonding layer; an organic EL layer provided over said FET; said single crystal semiconductor substrate is held in a vacant space which is defined by the bed plate and the cover plate and the packing material, and the vacant space is filled with an inert gas and a drying agent.
- b. The specification points out that an organic EL layer which serves as the basic portion of the organic EL display device is very liable to oxidize, the object of said configuration of the present application is to prevent the oxidation of the EL layer and provide an organic EL display device of high reliability.
- c. In view of technical approach, a skill of using a space with transparent major surface to enclose an electrooptic element and filling said space with an inert gas or getters to prevent said electrooptic element from oxidizing or damage is a well-known. The reference EP0859539A2 (published on August 19, 1998) cited at primary examination stage disposes an EL multilayer structure in a gastight space between a substrate and a shield member, fills the space with an inert gas having a water content of at most 100ppm, and joins the shield member and the substrate with a UV-curing epoxy resin. Additionally, Taiwan Patent application No. 82106799 (published on July 11, 1994) also discloses a CCD sensor die enclosed within a space filled with He (helium) gas and the space being defined by ceramic base, two-side ceramic frame and the upper glass lid. PCT Patent Gazette No. WO95/23425 also proposes a getter and a supporting layer thereof in each pixel space of a field emitter flat display. Comparing with this application, all of the cited references disclose an airtight space which is filled with inert gas or getters so as to prevent the oxidation of the electrooptic elements and increase the reliability of the device. In view of the above, this application is merely a direct or simple utilization of said technology and knowledge and is easily achievable by persons skilled in the art. This application does not possess inventive step and should be

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rejected in accordance with Paragraph Two of Article 20 of Patent Law.

[TIPLO's Remarks]

1. Digest of the Notice

The examiner believes that the technical characteristic of this invention is merely a utilization of the cited references- without inventive step.

2. Related Legal Provisions

This Office Action is issued pursuant to Articles 44 and 44-1 of the Patent Law and Article 28 of the Enforcement Rules of the Patent Law, as quoted below for your reference.

Article 44

When examining an invention patent application, the Special Patent Agency may, ex officio or upon request, notify the patent applicant or opposition petitioner to do any of the following acts within a specified time limit:

- a. To appear before the Patent Agency for an interview; or
- b. To perform necessary experiment(s) or to supplement model(s) or sample(s).

The Patent Agency may, when necessary, visit the site or a designated place for inspection or observation of the experiments or models or samples under Item 2 of the preceding Paragraph.

Article 44-1

The Special Patent Agency may, ex officio, notify the applicant to supplement or amend the specification or drawings within a specified time limit:

The applicant may supplement or amend the specification or drawings within fifteen (15) months from the day following the filing date of the invention patent application.

After fifteen (15) months from the day following the filing date of the invention patent application, the applicant may supplement or amend the specification or drawings only on the dates or during the periods as specified below:

- (1) At the same time when applying for substantive examination.
- (2) Within three (3) months from the day following the service of the notification of substantive examination, if the substantive examination is applied for by the person other than the applicant.
- (3) Within the time limit prescribed in Final Office Action prior to Rejection as rendered by the Special Patent Agency.
- (4) At the same time when applying for re-examination or within the time limit for supplementing the statement for reasons of re-examination.
- (5) Within the time limit for submitting the written response to opposition.
- (6) Within the time limit for submitting the written response which is prescribed by the Special Patent Agency ex officio during examination.

The supplement or modification made in accordance with the preceding three paragraphs shall not involve any substantial changes and if such supplement or modification is submitted after the publication of the invention patent application, it will be allowed only under any of the following events:

- (1) Where the claims are excessively broad.
- (2) Where there are erroneous statements, or
- (3) Where there are ambiguous statements.

In the event that a priority is claimed in accordance with Article 24 of the Law, the time limit as stated in

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the paragraph 2 shall be counted from the day following the priority date. (1) Prior to applying for patent, it has been published or publicly used; provided that this restriction shall not apply if the publication or public use is made for the purpose of research or experiment and an application for patent has been filed within six months from the date of such publication or public use;

Article 28 of Enforcement Rules

A submission of supplements, amendments of specification or drawings according to item 1 through item 4 of the first paragraph of Article 44-1 or item 1 of the first paragraph and the third paragraph of Article 102 of the Patent Law should be filed with an application form and include following documents:

(1) Page(s) of the specification or drawings containing amended contents with the amended portion(s) being underlined.

(2) A clean copy of the page(s) of the specification or drawings containing amended contents; if this specification or drawing supplements, amendments causes discontinuity of original specification or drawing page numbering, a full set of the specification and drawings that have been supplemented, amended should be enclosed as well.

Paragraph Two of Article 20 of Taiwan Patent Law provides that an invention shall be denied a patent if it simply utilizes conventional technology or knowledge known prior to the application for patent and can easily be made by persons skilled in the art.

3. Related Patent Examination Guideline

From the Guidelines for Patent Examination published by Taiwan Patent Office, an invention is deemed non-obvious to those skilled in the art if it demonstrates a distinguished technical characteristic or significant improvement. "Distinguished technical characteristic" refers to an invention which is not easily derived from analyzing, reasoning, nor testing by those skilled in the art on the basis of conventional technology while "significant improvement" refers to an invention which has overcome the problems or difficulties existing in the conventional technology.

4. Related Patent Practice in Taiwan

According to the newly amended Patent Law with the effective date of July 1, 2004, "non-substantive examination" will apply to all utility model patent applications. As for those utility model patent application filed before the above effective date but cannot be examined as final before July 1, 2004, they may also be subject to non-substantive examination.

To alleviate the pressure imposed by the enormous backlog of unsettled application cases, the Taiwanese Intellectual Property Office (IPO) made two announcement respectively on June 10, and September 26 of 2003 indicating that the new utility model

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applications, including the newly filed cases and the conversion cases filed or converted after July 1, 2003 will most likely not undergo substantive examination and are most likely be granted utility model after July 1, 2004, whence the new law that introduces non-examination issuance for utility model should formally take effect. In other words, for those utility model patent applications filed or converted after July 1, 2003, they are likely applied to "non-substantive examination".

not be subject to substantive examination

If the applicant aims to obtain a utility model patent certificate for his non-method or non-process article claims in a more timely and simplistic manner, he may consider filing a new utility model patent application with the same specification or convert his patent application to a utility model, since according to the above announcements from the IPO, such utility model application would be granted after July of 2004 without undergoing substantive examination.

However, as of July 1, 2004, upon enforcement of the utility model, a technical appraisal in writing must be produced by the patent authority institute (the Intellectual Property Office) at the request of the right holder of the utility model, and such procedure may carry on for months to the detriment of the efficiency of enforcement action.

Please kindly give due thoughts to the above issues.

5. Technical Viewpoints

After reviewing the rejection reasons, the examiner has retained the original opinion from the previous examiner and enhanced the assertion with two additional references.

Through EPO website, we have found that the cited reference Taiwan Patent



Attorneys-at-Law

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application No. 82106799 corresponds to U.S. Patent No. 5,423,119. By reviewing this reference, we found that the gas filled within the space is nitrogen, not helium mentioned by the examiner. We therefore believe that the examiner has misinterpreted the gas used by the cited reference. Further, this cited reference also fails to disclose the utilization of drying agent and presents a similar situation to EP 0859359 cited by the previous examiner.

As to PCT Patent No. WO95/23425, it claims a field emitter flat display containing a getter. It shows a vacuum stabilizer (g) formed of a non-evaporable getter material housed in a space of the pixel as mentioned by the abstract thereof.

A copy of the front pages of these two cited reference is enclosed for your immediate reference.

6. Strategies and Tactics

The examiner apparently criticizes that technology of this invention has been disclosed by the cited references. In responding to this rejection, we have to emphasize there are differences between this invention and the cited references and **this invention achieves a great effectiveness which is not achievable by the references**. Specifically, the applicant may make a further limitation to the claims for distinguishing this application from the cited references as to direct this application to a better position.

7. Conclusion

Should you have further comments regarding this notice, please advise.

Handled by: Oscar Chen

Supervisor: Nelson Yu

DDN: 886-2-508-6620

OCT 01 2003

DIALOG(R)File 352:Derwent WPI

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009986893 **Image available**

WPI Acc No: 1994-254604/199431

XRPX Acc No: N94-200425

Hybrid integrated circuit assembly process for CCD image sensor - sealing ceramic frame to image sensor leads and sealing light input glass to ceramic frame, and baking assembly prior to sealing and filling with nitrogen

Patent Assignee: HUALON MICROELECTRONICS CORP (HUAL-N)

Inventor: YANG S

Number of Countries: 001 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-----------|------|----------|-------------|------|----------|----------|
| TW 226488 | A | 19940711 | TW 93106799 | A | 19930823 | 199431 B |
| TW 408506 | A | 20001011 | TW 93106799 | A | 19980608 | 200116 |
| TW 408504 | A | 20001011 | TW 93106799 | A | 19980608 | 200116 |
| TW 408505 | A | 20001011 | TW 93106799 | A | 19980608 | 200116 |

Priority Applications (No Type Date): TW 93106799 A 19930823

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|-----------|------|--------|-------------|--------------|
| TW 226488 | A | 16 | H01L-031/14 | |
| TW 408506 | A | | H01L-031/14 | |
| TW 408504 | A | | H01L-031/14 | |
| TW 408505 | A | | H01L-031/14 | |

Abstract (Basic): TW 226488 A

The hybrid IC assembly process involves using hybrid IC technology to assemble the required metal wires, resistors and capacitors on a ceramic substrate, and surface adhesion technology to fix the required transistors or IC on the substrate. A conductive silver glue is used to adhere the image sensor on the ceramic substrate, with a wire solder connecting the image sensor lead frame to the metal wire on the ceramic substrate.

A smelter is used to bond a ceramic frame with resin/glass sealant on the lead frame, with a light input glass on the frame. The frame and the input glass is pinched with a gripper and baked in a dust-free oven filled with nitrogen. The frame is sealed to the light input glass and to the ceramic substrate by the sealant on the frame, and the sealed space is filled with nitrogen.

ADVANTAGE - Rreduced size, cost; simplified process; temperature and oxidation corrosion resistant.

Dwg.1D/2

Title Terms: HYBRID; INTEGRATE; CIRCUIT; ASSEMBLE; PROCESS; CCD; IMAGE; SENSE; SEAL; CERAMIC; FRAME; IMAGE; SENSE; LEAD; SEAL; LIGHT; INPUT; GLASS; CERAMIC; FRAME; BAKE; ASSEMBLE; PRIOR; SEAL; FILL; NITROGEN

Derwent Class: U13; U14; W04

International Patent Class (Main): H01L-031/14

File Segment: EPI

No

正本

經濟部智慧財產局專利再審查案核駁理由先行通知書

受文者：

半導體能源研究所股份有限公司（代理人：林志剛 先生）

地

址：臺北市中山區南京東路二段一二五號七樓

發文日期：中華民國九十二年九月十九日

發文文號：

（九二）智專三（二）04083字
第〇九二二〇九四四七五〇號

主旨：第〇八九一一九〇〇七號專利再審查案經審查後發現尚有如說明三所述不明確之處，台端（貴公司）若有具體反證資料或說明，請於文到次日起六十日內提出申復說明及有關反證資料一式二份。若屆期未依通知內容辦理者，專利專責機關得依現有資料續行審查，請查照。

說明：

一、本案如有修正應依專利法第四十四條、第四十四條之一、第一百零二條之一、專利法施行細則第二十八條及本局九十一年十一月八日智法字第〇九一八六〇〇一一八—〇號公告之規定辦理並繳修正規費新台幣一千元正（如有補充、修正說明書或圖式者，應備具補充、修正申請書一式二份，並檢送補充、修正部份劃線之說明書或圖式修正頁一式二份及補充、修正後無劃線之說明書或圖式替換頁一式三份；如補充、修正後致原說明書或圖式頁數不連續者，應檢附補充、修正後之全份說明書或圖式一式三份至局）。

二、若希望來局當面示範或說明，請於申復說明書內註明「申請面詢」，本局認為有必要時，另安排地點、時間舉辦「面詢」，並繳交規費新台幣二千元正。

三、本案經審查認為：

（一）本案係一種主動矩陣式有機LED（電致發光）顯示裝置，包含：設置一單品半導體基體上之絕

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緣開場效電晶體(FET)，絕緣材質之一基板及一蓋板，用以粘合基板及蓋板之包裝材料或粘合層；該FET上設置一有機EL層；上述單品半導體基體保持於一由基板、蓋板及粘合層所界定之空出空間中，其鑿間中填入鈍氣及乾燥劑。

(二) 本案說明書中一再述明上述中用作有機EL顯示裝置之基本部分之有機EL層非常容易氧化，本案上述設計之目的在於防止該EL層之氧化，而提高可靠性之有機EL顯示裝置。

(三) 在技術手法上，為了防止一光電元件之氧化、受污損，而以一具有透光之主面之空間包圍該光電元件，並在該空間中填充鈍氣或吸氧劑(Getters)，係已習知者；初審引證之檢索資料EP0859539A2(1998年8月19日公告)即是在一有機EL顯示裝置中，將EL多層結構設置在一基板與遮蔽件間之密閉空間內，其鑿間內並填入水含量在100ppm以下之鈍氣，遮蔽件與基板間以UV熱化之環氧樹脂予以粘合。此外第82106799號案(八十三年七月十一日公告)亦已稱CCD感光元件密封在填入He氣氣之空間中，該空間由陶瓷基板，兩側陶瓷框架及上方之玻璃板所構成。PCT WO95/23425號公報亦已在一場放射平面顯示器之各像素空間內設置吸氧劑及其支撐層。相較之下，上述引證之先前技術例均已揭示利用一氣密之空間並在其內填入鈍氣或吸氧劑，藉此以防止其中之光電元件之氧化，以提高其可靠性之技術與知識。相對之下，本案仍只是上述技術與知識之直接或單純之運用，應仍屬熟習該項技術者可輕易完成者，不具進步性，不符專利法第二十條第二項，應不予專利。

經濟部智慧財產局